

## STUDENT LEARNING OBJECTIVE – TEACHER

**Content Area:** Mathematics

**Grade Level:** Gr. 1

### **Objective Statement:**

Students will demonstrate grade-level proficiency in the following areas:

- Students will demonstrate understanding of numerical operations in a variety of contexts by applying appropriate strategies and representing and solving addition and subtraction problems within 20. Problem-solving strategies include using objects or drawings, representing and using equations, using the counting sequence, and applying properties of operations.
- Students will demonstrate understanding of place value by counting by 2s, 5s, and 10s, by comparing two-digit numbers to determine which is greater, and by using place value to solve addition and subtraction problems within 100.

### **Rationale:**

The objective focuses on two of the four CCSS critical areas for Grade 1: Operations and Algebraic Thinking as well as Number and Operations in Base Ten. The CCSS outline the mathematics concepts that should be the focus of instruction in Grade 1 and while each area is important for laying the foundation for future study of mathematics, these two are considered to be most predictive of future mathematics learning. Students who leave first grade with a proficient grasp of these two concepts and skills will largely be prepared to begin second grade mathematics.

### **Aligned Standards:**

*Represent and solve problems involving addition and subtraction.*

- 1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- 1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

*Understand and apply properties of operations and the relationship between addition and subtraction.*

- 1.OA.3 Apply properties of operations as strategies to add and subtract.
- 1.OA.4 Understand subtraction as an unknown-addend problem.

*Add and subtract within 20.*

- 1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- 1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g.,  $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$ ); decomposing a number leading to a ten (e.g.,  $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$ ); using the relationship between addition and subtraction (e.g., knowing that  $8 + 4 = 12$ , one knows  $12 - 8 = 4$ ); and creating equivalent but easier or known sums (e.g., adding  $6 + 7$  by creating the known equivalent  $6 + 6 + 1 = 12 + 1 = 13$ ).

*Work with addition and subtraction equations.*

- 1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.
- 1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

*Extend the counting sequence.*

- 1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

*Understand place value.*

- 1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
- 10 can be thought of as a bundle of ten ones — called a “ten.”
  - The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
  - The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- 1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols  $>$ ,  $=$ , and  $<$ .

*Use place value understanding and properties of operations to add and subtract.*

- 1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
- 1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
- 1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

**Students:**

All 26 first-grade students (all first-grade teachers will be utilizing this SLO, with targets tiered to their individual students).

**Interval of Instruction:**

SY2012-2013

**Baseline Data:**

An assessment based on Kindergarten mathematics standards was administered during the first week of school. Based on that data, we were able to determine that 80% of students are entering first grade with the necessary prerequisite mathematical content and skills, specifically in the area of counting from 0-20. 20% of students are entering first grade lacking some prerequisite content and skills, specifically in knowing number names and the count sequence as well as adding and subtracting within 5.

**Target(s):**

1. 100% of students will reach proficiency (75% or higher) on the final administration of the district mathematics assessment (which is administered in October, February, and June).
  - a. The 80% of students who entered with the prerequisite skills will score 85% proficiency or higher.
  - b. The 20% of students who entered without the prerequisite skills will score 75% proficiency or higher.
2. 100% of students will complete a portfolio that demonstrates proficiency in the critical areas of Operations and Algebraic Thinking as well as Number and Operations in Base Ten (at least 4 pieces of work per area). Portfolio can include tests, quizzes, and in-class assignments (no homework or worksheets intended for practice). At least 1 of the 4 pieces of work for each area must be a common task (used in all 3 first grade classrooms).
  - a. For the 80% of student who entered with the prerequisite skills work must demonstrate 85% accuracy or better to be included in the portfolio. Each student must also include a Challenge Task demonstrating their ability to stretch their learning by applying knowledge to more complicated problems.
  - b. For the 20% of students who entered without the prerequisite skills work must demonstrate 75% accuracy or better to be included in the portfolio.

**Rationale for Target(s):**

Ultimately our first grade team feels it is essential that all students end the year prepared for achievement as 2<sup>nd</sup> graders. While a gap already exists in this cohort of students we believe through individualized learning plans and strategic supports, we can significantly close this gap and ensure that all students meet a base proficiency in these two content areas. The targets set for the 80% of students entering on grade level were set based upon the progress that we have observed in our students in past years on the district common assessment and the portfolio assessment. We believe these students can be supported to reach the objectives at high levels. The targets for the 20% of students entering below grade level reflect adequate progress, based upon the performance of similar students in past years. Though we will work closely with these students to address this gap, we feel it is appropriate to set a modified target to account for their differing baseline.

**Evidence Source(s):**

1. The district mathematics assessment was collaboratively created and aligned to CCSS as well as the Response to Intervention guidelines for core instruction.
2. The portfolio, its requirements, and rubric were created by the first-grade team with our math coach, and it aligns with other rubrics used throughout our elementary school.

**Administration:**

1. The district mathematics assessment will be administered three times per year. It is administered one-on-one by the classroom teacher, our math coach, or the district testing coordinator.
2. Students will be told in advance if certain tasks are eligible for portfolio submission and they will work with teachers to determine which tasks to submit for their portfolio.

**Scoring:**

1. The district mathematics assessment is scored by whoever administers the test, including the classroom teacher, our math coach, or the district testing coordinator.
2. The portfolio will be built over the course of the year. Most work will be scored by me, the classroom teacher, though common tasks will be scored collaboratively by all three first grade teachers.